ATTACHMENT A

REMEDIATION GENERAL PERMIT

(Provided on CD)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
BOSTON, MA 02109-3912

CERTIFIED MAIL RETURN RECEIPT REQUESTED

APR 4 2011

Brian Guichard, Site Manager
Olin Corporation
51 Eames Street
Wilmington, MA 01887

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000. Olin Corporation site located at 51 Eames Street Wilmington, MA 01887 Middlesex County; Authorization # MAG910074 – Reissuance

Dear Mr. Guichard:

Based on the review of a Notice of Intent (NOI) dated December 3, 2010 and submitted on behalf of Olin Corporation of Tennessee by Steve Morrow for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Operator, to discharge in accordance with the provisions of the RGP at this site. Your authorization number is listed above.

The checklist enclosed with this RGP authorization indicates the pollutants which you are required to monitor. Also indicated on the checklist are the effluent limits, test methods and minimum levels (MLs) for each pollutant. Please note that the checklist does not represent the complete requirements of the RGP. Operators must comply with all of the applicable requirements of this permit, including influent and effluent monitoring, narrative water quality standards, record keeping, and reporting requirements, found in Parts I and II, and Appendices I – VIII of the RGP. See EPA's website for the complete RGP and other information at: http://www.epa.gov/region1/npdes/mass.html#dgp.

Please note that the checklist includes parameters categorized as follows:

1. **Parameters you have marked "Believed Present".**

   These include total phenols, total phthalates, bis (2- ethylhexyl) phthalate, chloride and iron. With the exception of the pollutants iron and chloride, the remaining three parameters are not in violation of the RGP limits. However, since these were detected in historic (influent and effluent) data, monitoring is required based on the reasonable potential for re-occurrence of these pollutants in the future at levels which may violate RGP permit limits.

2. **Parameters you reported as "Believed Absent": total suspended solids, phenols, total residual chlorine, arsenic, nickel and zinc.**

   With the exception of arsenic which was reported in influent as high as 13 ug/L in violation of the Appendix III limit, total suspended solids, total residual chlorine, phenols, nickel, and zinc were detected at levels below the RGP limits. All these parameters are required to be monitored based also on their historic presence, and a reasonable potential to exceed RGP criteria limits in the future.

Also, please note that the metals included on the list are dilution dependent pollutants and subject to limitations based on a dilution factor range (DFR). Due to the absence of dilution since this discharge is to an unnamed ditch, EPA determined that the DFR for these parameters is in the one to five (1-5) range (See Appendix IV of the RGP for Massachusetts facilities). Therefore, the limits for arsenic of 10 ug/L, nickel of 29 ug/L, zinc of 66.6 ug/L and iron of 1,000 ug/L are required to achieve permit compliance at your site.

Finally, please note the list of pollutants attached to this authorization is subject to a recertification if the operations at the site result in a discharge lasting longer than six months. A recertification can be submitted to EPA within six (6) to twelve (12) months of operations in accordance with the 2010 RGP requirements.

This general permit and authorization to discharge will expire on September 9, 2015. Since you have not reported a termination date, we interpret that to mean that the discharge will continue indefinitely or that the termination date is unknown. If for any reason the discharge terminates sooner than the expiration date, you are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

Thank you in advance for your cooperation in this matter. Please contact Victor Alvarez at 617-918-1572 or Alvarez.Victor@epa.gov, if you have any questions.

Sincerely,

David M. Webster, Chief
Industrial Permits Branch

Enclosure

cc: Kathleen Keohane, MassDEP
Steve Morrow, Olin

	Parameter	Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	11. Methyl-tert-Butyl Ether (MtBE)	70.0 ug/l/Me#8260C/ML 10ug/L
	12.tert-Butyl Alcohol (TBA) (TertiaryButanol)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
	13. tert-Amyl Methyl Ether (TAME)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
	14. Naphthalene [5]	20 ug/L /Me#8260C/ML 2ug/L
	15. Carbon Tetrachloride	4.4 ug/L /Me#8260C/ ML 5ug/L
	16. 1,2 Dichlorobenzene (o-DCB)	600 ug/L /Me#8260C/ ML 5ug/L
	17. 1,3 Dichlorobenzene (m-DCB)	320 ug/L /Me#8260C/ ML 5ug/L
	18. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/L /Me#8260C/ ML 5ug/L
	18a. Total dichlorobenzene	763 ug/L - NH only /Me#8260C/ ML 5ug/L
	19. 1,1 Dichloroethane (DCA)	70 ug/L /Me#8260C/ ML 5ug/L
	20. 1,2 Dichloroethane (DCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	21. 1,1 Dichloroethene (DCE)	3.2 ug/L/Me#8260C/ ML 5ug/L
	22. cis-1,2 Dichloroethene (DCE)	70 ug/L/Me#8260C/ ML 5ug/L
	23. Methylene Chloride	4.6 ug/L/Me#8260C/ ML 5ug/L
	24. Tetrachloroethene (PCE)	5.0 ug/L/Me#8260C/ ML 5ug/L
	25. 1,1,1 Trichloro-ethane (TCA)	200 ug/L/Me#8260C/ ML 5ug/L
	26. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	27. Trichloroethene (TCE)	5.0 ug/L /Me#8260C/ ML 5ug/L
	28. Vinyl Chloride (Chloroethene)	2.0 ug/L /Me#8260C/ ML 5ug/L
	29. Acetone	Monitor Only(ug/L)/Me#8260C/ML 50ug/L
	30. 1,4 Dioxane	Monitor Only /Me#1624C/ML 50ug/L
√	31. Total Phenols	300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L
	32. Pentachlorophenol (PCP)	1.0 ug/L /Me#8270D/ML 5ug/L,Me#604 &625/ML 10ug/L
√	33. Total Phthalates (Phthalate esters) [6]	3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L
√	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/L /Me#8270D/ML 5ug/L,Me#606/ML 10ug/L & Me#625/ML 5ug/L
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
	a. Benzo(a) Anthracene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	b. Benzo(a) Pyrene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Authorization Number:	**MAG91074 - Reissuance**
Date Authorization Issued:	March, 2011
Facility/Site Name:	Olin Corporation
Facility/Site Address:	Olin Corporation site located at 51 Eames Street Wilmington, MA 01887 Middlesex County
	Owners email:SCMorrow@olin.com
Legal Name of Operator:	Olin Corporation
Operators name, title, and address:	Brian Guichard, Site Manager Address, same as the owner.
Estimated Date of Completion:	Unknown
Category and Sub-Category:	Class II. Subcategory B. and C. VOC Sites with Additional Contamination and Primarily Heavy Metals Sites, Respectively.
Receiving Water:	Unnamed ditch to Halls Brook holding area.

Monitoring & Limits are applicable if checked. All samples are to be collected as grab samples

	Parameter	**Effluent Limit/Method#/ML** (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
√	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/L) **, 50 mg/L for hydrostatic testing **, Me#60.2/ML5ug/L
√	2. Total Residual Chlorine (TRC) [1]	Freshwater = 11 ug/L ** Saltwater = 7.5 ug/L **/ Me#330.5/ML 20ug/L
	3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/L/ Me# 1664A/ML 5.0mg/L
	4. Cyanide (CN) [2, 3]	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 5ug/L
	5. Benzene (B)	5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L
	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L
	7. Ethylbenzene (E)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) [4]	100 ug/L/ Me#8260C/ ML 2ug/L
	10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L

	Parameter	Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	c. Benzo(b)Fluoranthene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	d. Benzo(k)Fluoranthene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	e. Chrysene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	f. Dibenzo(a,h)anthracene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	g. Indeno(1,2,3-cd) Pyrene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML5ug/L
	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
	h. Acenaphthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	i. Acenaphthylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	j. Anthracene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	l. Fluoranthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	m. Fluorene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	n. Naphthalene [5]	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	o. Phenanthrene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	p. Pyrene	X/Me#8270D/ML5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	37. Total Polychlorinated Biphenyls (PCBs) [8, 9]	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
√	38. Chloride	Monitor only/Me# 300.0/ ML 0.1ug/L

	Metal parameter	Total Recoverable Metal Limit @ H [10]= 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) [11/12] Freshwater		Minimum level=ML	
	39. Antimony	5.6/ML 10			
√	40. Arsenic **	10/ML20			
	41. Cadmium **	0.2/ML10			
	42. Chromium III (trivalent) **	48.8/ML15			

	Metal parameter	Total Recoverable Metal Limit @ H [10]= 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) [11/12] Freshwater		Minimum level=ML	
	43. Chromium VI (hexavalent) **	11.4/ML10			
	44. Copper **	5.2/ML15			
	45. Lead **	1.3/ML20			
	46. Mercury **	0.9/ML0.2			
√	47. Nickel **	29/ML20			
	48. Selenium **	5/ML20			
	49. Silver	1.2/ML10			
√	50. Zinc **	66.6/ML15			
√	51. Iron	1,000/ML 20			

	Other Parameters	Limit
√	52. Instantaneous Flow	Site specific in CFS
√	53. Total Flow	Site specific in CFS
√	54. pH Range for Class A & Class B Waters in MA	6.5-8.3; 1/Month/Grab[13]
	55. pH Range for Class SA & Class SB Waters in MA	6.5-8.3; 1/Month/Grab[13]
	56. pH Range for Class B Waters in NH	6.5-8; 1/Month/Grab[13]
	57. Daily maximum temperature - Warm water fisheries	83°F; 1/Month/Grab[14]
	58. Daily maximum temperature - Cold water fisheries	68°F; 1/Month/Grab[14]
	59. Maximum Change in Temperature in MA - Any Class A water body	1.5°F; 1/Month/Grab[14]
	60. Maximum Change in Temperature in MA - Any Class B water body- Warm Water	5°F; 1/Month/Grab[14]
	61. Maximum Change in Temperature in MA – Any Class B water body - Cold water and Lakes/Ponds	3°F; 1/Month/Grab[14]
	62. Maximum Change in Temperature in MA – Any Class SA water body - Coastal	1.5°F; 1/Month/Grab[14]
	63. Maximum Change in Temperature in MA – Any Class SB water body - July to September	1.5°F; 1/Month/Grab[14]
	64. Maximum Change in Temperature in MA –Any Class SB water body - October to June	4°F; 1/Month/Grab[14]

Footnotes:

[1] Although the maximum values for TRC are 11ug/l and 7.5 ug/l for freshwater, and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., Method 330.5, 20 ug/l).
[2] Limits for cyanide are based on EPA's water quality criteria expressed as micrograms per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.

[3] Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).

[4] BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.

[5] Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.

[6] The sum of individual phthalate compounds(not including the #34, Bis (2-Ethylhexyl) Phthalate . The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

[7] Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

[8] In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Oroclor analyses."Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measure of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

[9]Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).

[10] Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.

[11] For a Dilution Factor (DF) from 1 to 5, metals limits are calculated using DF times the base limit for the metal. See Appendix IV. For example, iron limits are calculated using DF x 1,000ug/L (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit =1,000 x 2 =2,000 ug/L., etc. not to exceed the DF=5.

[12] Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).

[13] pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.

[14] Temperature sampling per Method 170.1

Olin
3855 NORTH OCOEE STREET, SUITE 200, CLEVELAND, TN. 37312
(423) 336-4000 FAX (423) 336-4166

December 3, 2010

U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code OEP06-44
Boston, MA 02109-3912
ATT: Remediation General Permit NOI Processing

Re: Re-Application for Coverage under the 2010 Remediation General Permit
Olin Corporation
MAG910074

To Whom It May Concern:

Please find enclosed the Notice of Intent (NOI) to re-apply for coverage for the Final 2010 Remediation General Permit.

Sincerely,

Steve Morrow
Principal Environmental Specialist

B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General facility/site information. Please provide the following information about the site:

a) Name of **facility/site**: Olin Corporation		**Facility/site** mailing address:		
Location of **facility/site**: longitude: -71.153732 latitude: 42.528698	Facility SIC code(s): 9999	Street: 51 Eames Street		
b) Name of **facility/site owner:**		Town: Wilmington		
Email address of facility/site owner: SGMorrow@olin.com / Olin Corporation		State: MA	Zip: 01887	County: Middlesex
Telephone no. of facility/site **owner**: 423-336-4511				
Fax no. of facility/site **owner**: 423-336-4166		**Owner** is (check one): 1. Federal ○ 2. State/Tribal ○ 3. Private ◉ 4. Other ○ if so, describe:		
Address of **owner** (if different from site):				
Street: 3855 North Ocoee Street, Suite 200				
Town: Cleveland	State: TN	Zip: 37312	County: Bradley	
c) Legal name of **operator**:		**Operator** telephone no: 978-658-6121		
		Operator fax no.: 978-658-6121	**Operator** email: BEGuichard@olin.com	
Operator contact name and title: Brian Guichard, Site Manager				
Address of **operator** (if different from owner):	Street: 51 Eames Street			
Town: Wilmington	State: MA	Zip: 01887	County: Middlesex	

d) Check Y for "yes" or N for "no" for the following:
1. Has a prior NPDES permit exclusion been granted for the discharge? Y ○ N ◉, if Y, number:
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge?
Y ◉ N ○, if Y, date and tracking #: 2/11/2000 MA0005304
3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Y ○ N ◉
4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y ○ N ◉

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y ◉ N ○
If Y, please list:
1. site identification # assigned by the state of NH or MA: RTN-3-0471
2. permit or license # assigned:
3. state agency contact information: name, location, and telephone number:

f) Is the site/facility covered by any other EPA permit, including:
1. Multi-Sector General Permit? Y ○ N ◉,
if Y, number:
2. Final Dewatering General Permit? Y ○ N ◉,
if Y, number:
3. EPA Construction General Permit? Y ○ N ◉,
if Y, number:
4. Individual NPDES permit? Y ○ N ◉,
if Y, number:
5. any other water quality related individual or general permit? Y ○
N ◉, if Y, number: MAG910074

g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y ○ N ◉

h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.

Activity Category	**Activity Sub-Category**
I - Petroleum Related Site Remediation	A. Gasoline Only Sites ☐ B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) ☐ C. Petroleum Sites with Additional Contamination ☐
II - Non Petroleum Site Remediation	A. Volatile Organic Compound (VOC) Only Sites ☐ B. VOC Sites with Additional Contamination ☒ C. Primarily Heavy Metal Sites ☒
III - Contaminated Construction Dewatering	A. General Urban Fill Sites ☐ B. Known Contaminated Sites ☐

IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites ☐ B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites ☐ C. Hydrostatic Testing of Pipelines and Tanks ☐ D. Long-Term Remediation of Contaminated Sumps and Dikes ☐ E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) ☐

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as necessary) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:

Pump and treat system to contain LNAPL migration

b) Provide the following information about each discharge:

1) Number of discharge points: 1

2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)?
Max. flow 0.22 Is maximum flow a **design value**? Y ○ N ◉
Average flow (include units) 0.19 Is average flow a design value or estimate? ESTIMATE

3) Latitude and longitude of each discharge within 100 feet:

pt.1: lat	42.527244	long	-71.155097	pt.2: lat.		long.	;
pt.3: lat		long		pt.4: lat.		long.	;
pt.5: lat		long		pt.6: lat.		long.	;
pt.7: lat		long		pt.8: lat.		long.	; etc.

4) If hydrostatic testing, total volume of the discharge (gals):

5) Is the discharge intermittent ◉ or seasonal ○ ?
Is discharge ongoing? Y ◉ N ○

c) Expected dates of discharge (mm/dd/yy): start end

d) Please attach a line drawing or flow schematic showing water flow through the facility including:
1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s): Unnamed ditch, East ditch, New Boston Street drainway, Halls Brook Holding area

3. Contaminant information.

a) Based on the sub-category selected (see Appendix III), indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids (TSS)		☒	☐	1	grab	SM 2540	D 2.0			0	0
2. Total Residual Chlorine (TRC)		☒	☐	9	grab	SM 4500	CLF 0.020			0	0
3. Total Petroleum Hydrocarbons (TPH)		☒	☐	9	grab	1664A	4.7			0	0
4. Cyanide (CN)	57125	☒	☐	1	grab	620400	IACN 0.010			0	0
5. Benzene (B)	71432	☒	☐	9	grab	82600B	1.0			0	0
6. Toluene (T)	108883	☒	☐	9	grab	82600B	1.0			0	0
7. Ethylbenzene (E)	100414	☒	☐	9	grab	82600B	1.0			0	0
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐	9	grab	82600B	1.0			0	0
9. Total BTEX [2]	n/a	☒	☐	9	grab	82600B	1.0			0	0
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	☒	☐	1	grab	8011	0.02			0	0
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐	1	grab	8260 B	1.0			0	0
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☒	☐	1	grab	8260 B	50			0	0

* Numbering system is provided to allow cross-referencing to Effluent Limits and Monitoring Requirements by Sub-Category included in Appendix III, as well as the Test Methods and Minimum Levels associated with each parameter provided in Appendix VI.

[2] BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

[3] EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
13. tert-Amyl Methyl Ether (TAME)	9940508	☒	☐	1	grab	8260 B	1.0			0	0
14. Naphthalene	91203	☒	☐	9	grab	8270 C	0.91			0	0
15. Carbon Tetrachloride	56235	☒	☐	1	grab	8260 B	1.0			0	0
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	1	grab	8260 B	1.0			0	0
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	1	grab	8260 B	1.0			0	0
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	1	grab	8260 B	1.0			0	0
18a. Total dichlorobenzene		☒	☐								
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	1	grab	8260 B	1.0			0	0
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	1	grab	8260 B	1.0			0	0
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	9	grab	8260 B	1.0			0	0
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐	9	grab	8260 B	1.0			0	0
23. Methylene Chloride	75092	☒	☐	1	grab	8260 B	2.0			0	0
24. Tetrachloroethene (PCE)	127184	☒	☐	1	grab	8260 B	1.0			0	0
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐	9	grab	8260 B	1.0			0	0
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	1	grab	8260 B	1.0			0	0
27. Trichloroethene (TCE)	79016	☒	☐	9	grab	8260 B	1.0			0	0

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
28. Vinyl Chloride (Chloroethene)	75014	☒	☐	1	grab	8260 B	0.5			0	0
29. Acetone	67641	☒	☐	9	grab	8260 B	50			0	0
30. 1,4 Dioxane	123911	☒	☐	1	grab	8260 B	50			0	0
31. Total Phenols	108952	☐	☒	9	grab	L210-001A	0.01			0	0.066
32. Pentachlorophenol (PCP)	87865	☒	☐	9	grab	8270 C	0.91			0	0
33. Total Phthalates (Phthalate esters) [4]		☐	☒	9	grab	8270 C					0.048
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☐	☒	9	grab	8270 C	1.8				0.022
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	9	grab	8270 C				0	0
a. Benzo(a) Anthracene	56553	☒	☐	9	grab	8270 C	0.27			0	0
b. Benzo(a) Pyrene	50328	☒	☐	9	grab	8270 C	0.18			0	0
c. Benzo(b)Fluoranthene	205992	☒	☐	9	grab	8270 C	0.27			0	0
d. Benzo(k)Fluoranthene	207089	☒	☐	9	grab	8270 C	0.27			0	0
e. Chrysene	21801	☒	☐	9	grab	8270 C	0.91			0	0
f. Dibenzo(a,h)anthracene	53703	☒	☐	9	grab	8270 C	0.45			0	0
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐	9	grab	8270 C	0.45			0	0
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	9	grab	8270 C				0	0

[4] The sum of individual phthalate compounds.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
h. Acenaphthene	83329	☒	☐	9	grab	8270 C	0.91			0	0
i. Acenaphthylene	208968	☒	☐	9	grab	8270 C	0.27			0	0
j. Anthracene	120127	☒	☐	9	grab	8270 C	0.91			0	0
k. Benzo(ghi) Perylene	191242	☒	☐	9	grab	8270 C	0.45			0	0
l. Fluoranthene	206440	☒	☐	9	grab	8270 C	0.91			0	0
m. Fluorene	86737	☒	☐	9	grab	8270 C	0.91			0	0
n. Naphthalene	91203	☒	☐	9	grab	8270 C	0.91			0	0
o. Phenanthrene	85018	☒	☐	9	grab	8270 C	0.18			0	0
p. Pyrene	129000	☒	☐	9	grab	8270 C	4.5			0	0
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐	1	grab	608	0.91			0	0
38. Chloride	16887006	☐	☒	1	grab	300.0	10			320,000	235
39. Antimony	7440360	☒	☐	1	grab	200.7	6.0			0	0
40. Arsenic	7440382	☒	☐	1	grab	200.7	10			0	0
41. Cadmium	7440439	☒	☐		grab	200.7	1.0			0	0
42. Chromium III (trivalent)	16065831	☒	☐	1	grab	200.7	5.0			0	0
43. Chromium VI (hexavalent)	18540299	☒	☐	1	grab	7196 A	5.0			0	0
44. Copper	7440508	☒	☐	1	grab	200.7	1.0			0	0
45. Lead	7439921	☒	☐	1	grab	200.7	5.0			0	0
46. Mercury	7439976	☒	☐	1	grab	245.1	0.20			0	0
47. Nickel	7440020	☒	☐	1	grab	200.7	10			0	0
48. Selenium	7782492	☒	☐	1	grab	200.7	10			0	0
49. Silver	7440224	☒	☐	1	grab	200.7	5.0			0	0
50. Zinc	7440666	☒	☐	1	grab	200.7	50			0	0
51. Iron	7439896	☐	☒	9	grab	200.7	100				811.85
Other (describe):		☐	☐		grab						

Other

Paarameter	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type	Analytical Method Used	Minimum Level of Test Method	Maximum Daily Value		Average Concnetration	
								Concentration	Mass	Concentration	Mass
								(µg/l)	(kg)	(µg/l)	(kg)
Ammonia	8013-59-0	X		9	Grab	L107-06-1B	0.1 mg/l			0	
2,4,4-Trimethyl-1-Pentene	107-39-1	X		9	Grab	8260B	1 µg/l			0	
2,4,4-Trimethyl-2-Pentene	107-40-4	X		9	Grab	8260B	1 µg/l			0	
N-Nitrosodimethylamine	62-75-9		X	1	Grab	8270LL	1.9 ng/l			0.096	0.000066

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
		☐	☐								
		☐	☐								

b) For discharges where **metals** are believed present, please fill out the following (attach results of any calculations):

Step 1: Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y ◉ N ○	If yes, which metals? ARSENIC, IRON
Step 2: For any metals which exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metal: ARSENIC DF: 0 Metal: IRON DF: 0 Metal: DF: Metal: DF: Etc.	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y ◉ N ○ If Y, list which metals: ARSENIC, IRON

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:

See attached sketch and process description.

b) Identify each applicable treatment unit (check all that apply):	Frac. tank ☐	Air stripper ☐	Oil/water separator ☐	Equalization tanks ☒	Bag filter ☒	GAC filter ☒
	Chlorination ☒	De-chlorination ☒	Other (please describe):			

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate**(s) (gallons per minute) of the treatment system:
Average flow rate of discharge 15.86 gpm Maximum flow rate of treatment system 25 gpm
Design flow rate of treatment system 25 gpm

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):

CALCIUM HYPOCHLORITE, SODIUM HYDROXIDE, HYDROCHLORIC ACID, SODIUM SULFITE

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:	Direct to receiving water ☐	Within facility (sewer) ☐	Storm drain ☐	Wetlands ☒	Other (describe): DRAINAGE DITCH

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:
Unnamed ditch, East ditch, New Boston Street drainway, Halls Brook Holding area

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:
1. For multiple discharges, number the discharges sequentially.
2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water
The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water CLASS B

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 0 cfs
Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y ○ N ◉ If yes, for which pollutant(s)?

Is there a final TMDL? Y ○ N ◉ If yes, for which pollutant(s)?

6. ESA and NHPA Eligibility.

Please provide the following information according to requirements of Permit Parts I.A.4 and I.A.5 Appendices II and VII.

a) Using the instructions in Appendix VII and information on Appendix II, under which criterion listed in Part I.C are you eligible for coverage under this general permit?

A ◉ B ○ C ○ D ○ E ○ F ○

b) If you selected Criterion D or F, has consultation with the federal services been completed? Y ○ N ○ Underway ○

c) If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is "not likely to adversely affect" listed species or critical habitat received? Y ◉ N ○

d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.

e) Using the instructions in Appendix VII, under which criterion listed in Part II.C are you eligible for coverage under this general permit?

1 ◉ 2 ○ 3 ○

f) If Criterion 3 was selected, attach all written correspondence with the State or Tribal historic preservation officers, including any terms and conditions that outline measures the applicant must follow to mitigate or prevent adverse effects due to activities regulated by the RGP.

7. Supplemental information.

Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name:	OLIN CORPORATION
Operator signature:	Curtis M Richards
Printed Name &Title:	CURTIS M. RICHARDS, CORPORATE VICE PRESIDENT - ENVIRONMENT, HEALTH & SAFETY
Date:	12/2/10

Olin Corporation

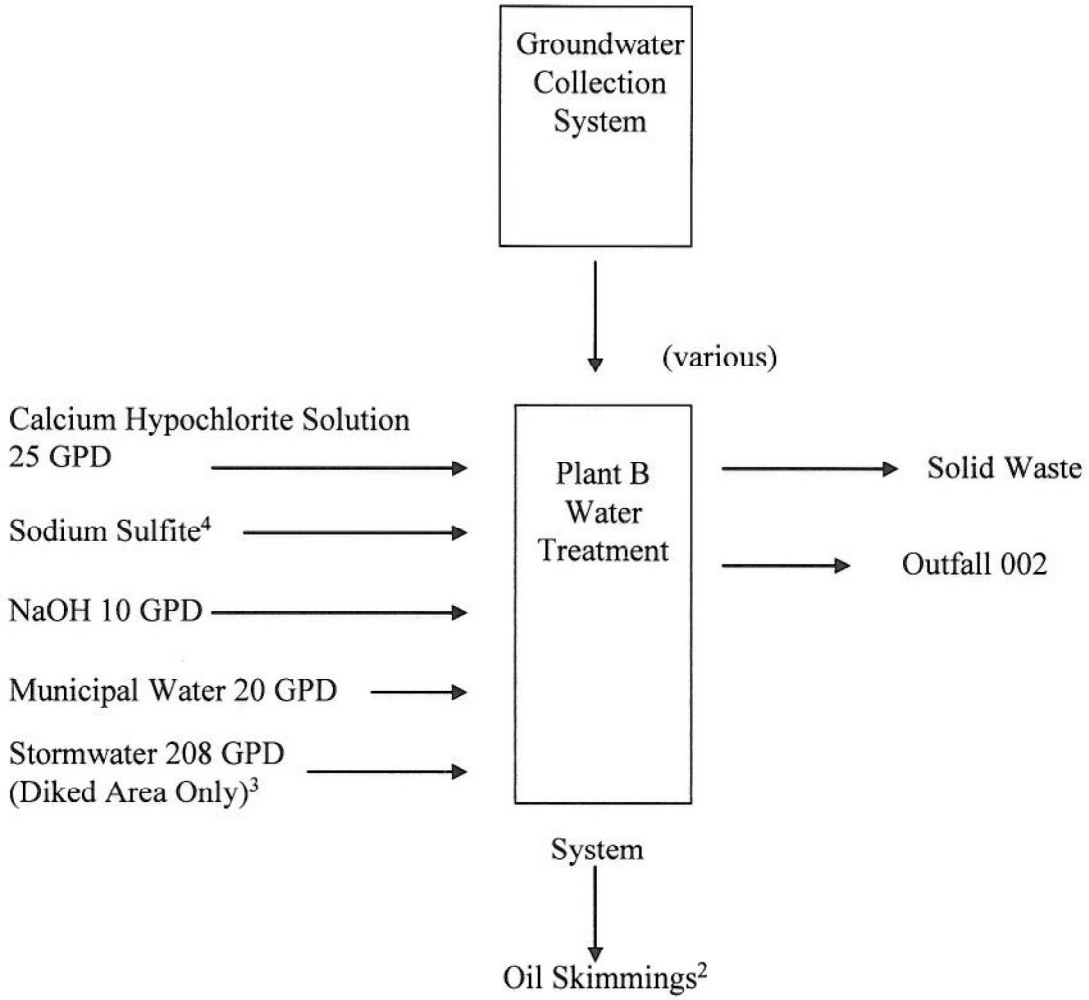
MACTEC

Figure 1
Site Location

Document: P:\OLIN\Wilmington\GIS\MapDocuments\RI Work Plan\Olin_8X11_P_NaturalHeritageRequest.mxd PDF: P:\OLIN\Wilmington\GIS\Figures\Plant B and RGP Discharge Location.pdf 09/28/2010 3:58 PM bjroden

Attachment II

Wilmington Wastewater Flow
MA6910074



Notes:

1. Various Flow Rate
2. Solid Waste consist of 1) 1-Drum of Filter Bags/year
   2) 6-2000# carbon beds/year carbon shipping back to Calgon Corporation for regeneration
   3) < 1-55 Gallon Drum of Recovered Oil
3. Stormwater Basis: 33' x 51' Pad with 49.5" Rainfall/year
   Discharge approximately 250 days/year
4. Only added if Total Residual Chlorine is >0.02mg/l

Mr. Steven Morrow
Olin Corporation
3855 North Ocoee Street
Suite 200
Cleveland, TN 37312-4441

Job Number: 360-30715-1

Client Sample ID: OC-Eff102010
Lab Sample ID: 360-30715-1

EFFLUENT

Date Sampled: 10/20/2010 1025
Date Received: 10/20/2010 1745
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8260B		Date Analyzed:		10/27/2010 0518	
Prep Method: 5030B		Date Prepared:		10/27/2010 0518	
Benzene	ND	ug/L	0.20	1.0	1.0
Toluene	ND	ug/L	0.40	1.0	1.0
Ethylbenzene	ND	ug/L	0.20	1.0	1.0
o-Xylene	ND	ug/L	0.40	1.0	1.0
m-Xylene & p-Xylene	ND	ug/L	0.40	2.0	1.0
Methyl tert-butyl ether	ND	ug/L	0.20	1.0	1.0
Butyl alcohol, tert-	ND	ug/L	3.8	50	1.0
Tert-amyl methyl ether	ND	ug/L	0.60	5.0	1.0
Carbon tetrachloride	ND	ug/L	0.40	1.0	1.0
1,1,1-Trichloroethane	ND	ug/L	0.40	1.0	1.0
1,1,2-Trichloroethane	ND	ug/L	0.40	1.0	1.0
1,1-Dichloroethane	ND	ug/L	0.20	1.0	1.0
1,1-Dichloroethene	ND	ug/L	0.40	1.0	1.0
1,2-Dichlorobenzene	ND	ug/L	0.40	1.0	1.0
1,2-Dichloroethane	ND	ug/L	0.40	1.0	1.0
1,3-Dichlorobenzene	ND	ug/L	0.40	1.0	1.0
1,4-Dioxane	ND	ug/L	10	50	1.0
1,4-Dichlorobenzene	ND	ug/L	0.20	1.0	1.0
Acetone	ND	ug/L	16	50	1.0
cis-1,2-Dichloroethene	ND	ug/L	0.20	1.0	1.0
Methylene Chloride	ND	ug/L	0.20	2.0	1.0
Tetrachloroethene	ND	ug/L	0.20	1.0	1.0
Trichloroethene	ND	ug/L	0.40	1.0	1.0
Vinyl chloride	ND	ug/L	0.40	0.50	1.0
2,4,4-Trimethyl-1-pentene	ND	ug/L	0.60	1.0	1.0
2,4,4-Trimethyl-2-pentene	ND	ug/L	0.60	1.0	1.0
Surrogate				Acceptance Limits	
4-Bromofluorobenzene	96	%		70 - 130	
Dibromofluoromethane	100	%		70 - 130	
Toluene-d8 (Surr)	102	%		70 - 130	
Method: 8270C LL		Date Analyzed:		11/10/2010 1952	
Prep Method: 3510C		Date Prepared:		10/25/2010 1620	
2,4,5-Trichlorophenol	ND	ug/L	0.45	4.5	1.0
2,4,6-Trichlorophenol	ND	ug/L	0.45	4.5	1.0
2,4-Dichlorophenol	ND	ug/L	0.45	4.5	1.0
2,4-Dinitrophenol	ND	ug/L	0.45	4.5	1.0
2,4-Dimethylphenol	ND	ug/L	0.45	4.5	1.0
2-Chlorophenol	ND	ug/L	0.45	4.5	1.0

Mr. Steven Morrow
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3855 North Ocoee Street
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Cleveland, TN 37312-4441

Job Number: 360-30715-1

Client Sample ID: **OC-Eff102010**
Lab Sample ID: **360-30715-1**

Date Sampled: 10/20/2010 1025
Date Received: 10/20/2010 1745
Client Matrix: Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
2-Methylphenol	ND		ug/L	0.45	4.5	1.0
2-Nitrophenol	ND		ug/L	0.45	4.5	1.0
3 & 4 Methylphenol	ND		ug/L	0.45	4.5	1.0
4,6-Dinitro-2-methylphenol	ND		ug/L	0.45	4.5	1.0
4-Chloro-3-methylphenol	ND		ug/L	0.45	4.5	1.0
4-Nitrophenol	ND		ug/L	0.45	4.5	1.0
Acenaphthene	ND		ug/L	0.045	0.91	1.0
Acenaphthylene	ND		ug/L	0.045	0.27	1.0
Anthracene	ND		ug/L	0.064	0.91	1.0
Benzo[a]anthracene	ND		ug/L	0.15	0.27	1.0
Benzo[a]pyrene	ND		ug/L	0.094	0.18	1.0
Benzo[b]fluoranthene	ND		ug/L	0.13	0.27	1.0
Benzo[g,h,i]perylene	ND		ug/L	0.085	0.45	1.0
Benzo[k]fluoranthene	ND		ug/L	0.15	0.27	1.0
Bis(2-ethylhexyl) phthalate	0.45	J B	ug/L	0.45	1.8	1.0
Butyl benzyl phthalate	ND		ug/L	0.45	4.5	1.0
Chrysene	ND		ug/L	0.15	0.91	1.0
Di-n-butyl phthalate	0.57	J B	ug/L	0.55	4.5	1.0
Di-n-octyl phthalate	ND		ug/L	0.66	4.5	1.0
Dibenz(a,h)anthracene	ND		ug/L	0.058	0.45	1.0
Diethyl phthalate	ND		ug/L	0.45	4.5	1.0
Dimethyl phthalate	ND		ug/L	0.45	4.5	1.0
Fluoranthene	ND		ug/L	0.18	0.91	1.0
Fluorene	ND		ug/L	0.045	0.91	1.0
Indeno[1,2,3-cd]pyrene	ND		ug/L	0.072	0.45	1.0
Naphthalene	ND		ug/L	0.045	0.91	1.0
Pentachlorophenol	ND		ug/L	0.45	0.91	1.0
Phenanthrene	ND		ug/L	0.077	0.18	1.0
Phenol	ND	*	ug/L	0.45	4.5	1.0
Pyrene	ND		ug/L	0.17	4.5	1.0
N-Nitrosodimethylamine	ND		ug/L	0.45	4.5	1.0

Surrogate			Acceptance Limits
2,4,6-Tribromophenol	62	%	15 - 110
2-Fluorobiphenyl	59	%	30 - 130
2-Fluorophenol	28	%	15 - 110
Phenol-d5	17	%	15 - 110
Terphenyl-d14	75	%	30 - 130
Nitrobenzene-d5	68	%	30 - 130

Method: **608**
Prep Method: **CWA_Prep**

Date Analyzed: 10/26/2010 1722
Date Prepared: 10/22/2010 1558

Mr. Steven Morrow
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3855 North Ocoee Street
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Cleveland, TN 37312-4441

Job Number: 360-30715-1

Client Sample ID: **OC-Eff102010**
Lab Sample ID: **360-30715-1**

Date Sampled: 10/20/2010 1025
Date Received: 10/20/2010 1745
Client Matrix: Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
PCB-1016	ND	*	ug/L	0.25	0.91	1.0
PCB-1221	ND		ug/L	0.40	0.91	1.0
PCB-1232	ND		ug/L	0.31	0.91	1.0
PCB-1242	ND		ug/L	0.16	0.91	1.0
PCB-1248	ND		ug/L	0.35	0.91	1.0
PCB-1254	ND		ug/L	0.31	0.91	1.0
PCB-1260	ND	*	ug/L	0.23	0.91	1.0
Surrogate					Acceptance Limits	
Tetrachloro-m-xylene	83		%		30 - 150	
DCB Decachlorobiphenyl	113		%		30 - 150	
Surrogate					Acceptance Limits	
Tetrachloro-m-xylene	87		%		30 - 150	
DCB Decachlorobiphenyl	109		%		30 - 150	
Method: 8011			Date Analyzed:		11/01/2010 1746	
Prep Method: 8011			Date Prepared:		11/01/2010 1000	
Ethylene Dibromide	ND		ug/L	0.013	0.020	1.0
Surrogate					Acceptance Limits	
1,1,1,2-Tetrachloroethane	109		%		70 - 130	
Surrogate					Acceptance Limits	
1,1,1,2-Tetrachloroethane	105		%		70 - 130	
Method: 200.7 Rev 4.4			Date Analyzed:		10/27/2010 1241	
Prep Method: 200.7			Date Prepared:		10/26/2010 0752	
Silver	ND		ug/L	1.4	5.0	1.0
Arsenic	ND		ug/L	2.8	10	1.0
Cadmium	ND		ug/L	0.13	1.0	1.0
Chromium	ND		ug/L	0.65	5.0	1.0
Copper	ND		ug/L	2.3	10	1.0
Iron	ND		ug/L	14	100	1.0
Nickel	ND		ug/L	1.2	10	1.0
Lead	ND		ug/L	1.4	5.0	1.0
Antimony	ND		ug/L	1.5	6.0	1.0
Selenium	ND		ug/L	4.0	10	1.0
Zinc	ND		ug/L	6.6	50	1.0
Method: 245.1			Date Analyzed:		10/26/2010 1547	
Prep Method: 245.1			Date Prepared:		10/26/2010 0819	
Mercury	ND		ug/L	0.060	0.20	1.0

Mr. Steven Morrow
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Cleveland, TN 37312-4441

Job Number: 360-30715-1

Client Sample ID: **OC-Eff102010**
Lab Sample ID: **360-30715-1**

Date Sampled: 10/20/2010 1025
Date Received: 10/20/2010 1745
Client Matrix: Water

Analyte	Result/Qualifier		Unit	RL	RL	Dilution
Method: 1664A			Date Analyzed:	10/27/2010 1606		
Prep Method: 1664A			Date Prepared:	10/27/2010 1119		
SGT-HEM	ND		mg/L	4.7	4.7	1.0
Method: 300.0			Date Analyzed:	10/30/2010 0928		
Chloride	320		mg/L	10	10	10
Method: 7196A			Date Analyzed:	10/21/2010 0821		
Cr (VI)	ND		mg/L	0.0050	0.0050	1.0
Method: 7196A			Date Analyzed:	11/03/2010 1131		
Chromium, trivalent	ND		mg/L	0.0050	0.0050	1.0
Method: L204001A CN			Date Analyzed:	10/26/2010 1509		
Prep Method: Distill/CN			Date Prepared:	10/26/2010 1035		
Cyanide, Total	ND		mg/L	0.010	0.010	1.0
Method: L210-001A			Date Analyzed:	11/05/2010 1556		
Prep Method: Distill/Phenol			Date Prepared:	11/05/2010 1359		
Phenols, Total	ND		mg/L	0.010	0.010	1.0
Method: SM 2540D			Date Analyzed:	10/26/2010 1023		
Total Suspended Solids	ND		mg/L	2.0	2.0	1.0
Method: SM 4500 Cl F			Date Analyzed:	10/21/2010 0918		
Chlorine	ND	HF	mg/L	0.020	0.020	1.0

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Job Number: 360-30715-1

Client Sample ID: OC-Inf102010 INFLUENT
Lab Sample ID: 360-30715-2

Date Sampled: 10/20/2010 0945
Date Received: 10/20/2010 1745
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8260B		Date Analyzed:		10/27/2010 0540	
Prep Method: 5030B		Date Prepared:		10/27/2010 0540	
Benzene	ND	ug/L	0.20	1.0	1.0
Toluene	ND	ug/L	0.40	1.0	1.0
Ethylbenzene	ND	ug/L	0.20	1.0	1.0
o-Xylene	ND	ug/L	0.40	1.0	1.0
m-Xylene & p-Xylene	ND	ug/L	0.40	2.0	1.0
Methyl tert-butyl ether	ND	ug/L	0.20	1.0	1.0
Butyl alcohol, tert-	ND	ug/L	3.8	50	1.0
Tert-amyl methyl ether	ND	ug/L	0.60	5.0	1.0
Carbon tetrachloride	ND	ug/L	0.40	1.0	1.0
1,1,1-Trichloroethane	ND	ug/L	0.40	1.0	1.0
1,1,2-Trichloroethane	ND	ug/L	0.40	1.0	1.0
1,1-Dichloroethane	ND	ug/L	0.20	1.0	1.0
1,1-Dichloroethene	ND	ug/L	0.40	1.0	1.0
1,2-Dichlorobenzene	ND	ug/L	0.40	1.0	1.0
1,2-Dichloroethane	ND	ug/L	0.40	1.0	1.0
1,3-Dichlorobenzene	ND	ug/L	0.40	1.0	1.0
1,4-Dioxane	ND	ug/L	10	50	1.0
1,4-Dichlorobenzene	ND	ug/L	0.20	1.0	1.0
Acetone	ND	ug/L	16	50	1.0
cis-1,2-Dichloroethene	ND	ug/L	0.20	1.0	1.0
Methylene Chloride	ND	ug/L	0.20	2.0	1.0
Tetrachloroethene	ND	ug/L	0.20	1.0	1.0
Trichloroethene	ND	ug/L	0.40	1.0	1.0
Vinyl chloride	ND	ug/L	0.40	0.50	1.0
2,4,4-Trimethyl-1-pentene	120	ug/L	0.60	1.0	1.0
2,4,4-Trimethyl-2-pentene	21	ug/L	0.60	1.0	1.0
Surrogate				Acceptance Limits	
4-Bromofluorobenzene	99	%		70 - 130	
Dibromofluoromethane	98	%		70 - 130	
Toluene-d8 (Surr)	98	%		70 - 130	
Method: 8270C LL		Date Analyzed:		11/10/2010 2024	
Prep Method: 3510C		Date Prepared:		10/25/2010 1620	
2,4,5-Trichlorophenol	ND	ug/L	0.45	4.5	1.0
2,4,6-Trichlorophenol	ND	ug/L	0.45	4.5	1.0
2,4-Dichlorophenol	ND	ug/L	0.45	4.5	1.0
2,4-Dinitrophenol	ND	ug/L	0.45	4.5	1.0
2,4-Dimethylphenol	ND	ug/L	0.45	4.5	1.0
2-Chlorophenol	ND	ug/L	0.45	4.5	1.0

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Job Number: 360-30715-1

Client Sample ID: **OC-Inf102010**
Lab Sample ID: **360-30715-2**

Date Sampled: 10/20/2010 0945
Date Received: 10/20/2010 1745
Client Matrix: Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
2-Methylphenol	ND		ug/L	0.45	4.5	1.0
2-Nitrophenol	ND		ug/L	0.45	4.5	1.0
3 & 4 Methylphenol	ND		ug/L	0.45	4.5	1.0
4,6-Dinitro-2-methylphenol	ND		ug/L	0.45	4.5	1.0
4-Chloro-3-methylphenol	ND		ug/L	0.45	4.5	1.0
4-Nitrophenol	ND		ug/L	0.45	4.5	1.0
Acenaphthene	ND		ug/L	0.045	0.91	1.0
Acenaphthylene	ND		ug/L	0.045	0.27	1.0
Anthracene	ND		ug/L	0.064	0.91	1.0
Benzo[a]anthracene	ND		ug/L	0.15	0.27	1.0
Benzo[a]pyrene	ND		ug/L	0.094	0.18	1.0
Benzo[b]fluoranthene	ND		ug/L	0.13	0.27	1.0
Benzo[g,h,i]perylene	ND		ug/L	0.085	0.45	1.0
Benzo[k]fluoranthene	ND		ug/L	0.15	0.27	1.0
Bis(2-ethylhexyl) phthalate	9.3	B	ug/L	0.45	1.8	1.0
Butyl benzyl phthalate	ND		ug/L	0.45	4.5	1.0
Chrysene	ND		ug/L	0.15	0.91	1.0
Di-n-butyl phthalate	0.60	J B	ug/L	0.55	4.5	1.0
Di-n-octyl phthalate	ND		ug/L	0.66	4.5	1.0
Dibenz(a,h)anthracene	ND		ug/L	0.058	0.45	1.0
Diethyl phthalate	ND		ug/L	0.45	4.5	1.0
Dimethyl phthalate	ND		ug/L	0.45	4.5	1.0
Fluoranthene	ND		ug/L	0.18	0.91	1.0
Fluorene	ND		ug/L	0.045	0.91	1.0
Indeno[1,2,3-cd]pyrene	ND		ug/L	0.072	0.45	1.0
Naphthalene	ND		ug/L	0.045	0.91	1.0
Pentachlorophenol	ND		ug/L	0.45	0.91	1.0
Phenanthrene	ND		ug/L	0.077	0.18	1.0
Phenol	0.97	J *	ug/L	0.45	4.5	1.0
Pyrene	ND		ug/L	0.17	4.5	1.0
N-Nitrosodimethylamine	ND		ug/L	0.45	4.5	1.0

Surrogate			Acceptance Limits
2,4,6-Tribromophenol	60	%	15 - 110
2-Fluorobiphenyl	53	%	30 - 130
2-Fluorophenol	25	%	15 - 110
Phenol d5	15	%	15 - 110
Terphenyl-d14	58	%	30 - 130
Nitrobenzene-d5	63	%	30 - 130

Method: 608
Prep Method: CWA_Prep

Date Analyzed: 10/26/2010 1747
Date Prepared: 10/22/2010 1558

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Job Number: 360-30715-1

Client Sample ID: OC-Inf102010
Lab Sample ID: 360-30715-2

Date Sampled: 10/20/2010 0945
Date Received: 10/20/2010 1745
Client Matrix: Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
PCB-1016	ND	*	ug/L	0.25	0.91	1.0
PCB-1221	ND		ug/L	0.40	0.91	1.0
PCB-1232	ND		ug/L	0.31	0.91	1.0
PCB-1242	ND		ug/L	0.16	0.91	1.0
PCB-1248	ND		ug/L	0.35	0.91	1.0
PCB-1254	ND		ug/L	0.31	0.91	1.0
PCB-1260	ND	*	ug/L	0.23	0.91	1.0
Surrogate					Acceptance Limits	
Tetrachloro-m-xylene	54		%		30 - 150	
DCB Decachlorobiphenyl	66		%		30 - 150	
Surrogate					Acceptance Limits	
Tetrachloro-m-xylene	59		%		30 - 150	
DCB Decachlorobiphenyl	68		%		30 - 150	
Method: 8011			Date Analyzed:		11/01/2010 1808	
Prep Method: 8011			Date Prepared:		11/01/2010 1000	
Ethylene Dibromide	ND		ug/L	0.013	0.020	1.0
Surrogate					Acceptance Limits	
1,1,1,2-Tetrachloroethane	124		%		70 - 130	
Surrogate					Acceptance Limits	
1,1,1,2-Tetrachloroethane	96		%		70 - 130	
Method: 200.7 Rev 4.4			Date Analyzed:		10/27/2010 1244	
Prep Method: 200.7			Date Prepared:		10/26/2010 0752	
Silver	ND		ug/L	1.4	5.0	1.0
Arsenic	13		ug/L	2.8	10	1.0
Cadmium	ND		ug/L	0.13	1.0	1.0
Chromium	0.89	J B	ug/L	0.65	5.0	1.0
Copper	ND		ug/L	2.3	10	1.0
Iron	9400		ug/L	14	100	1.0
Nickel	2.8	J	ug/L	1.2	10	1.0
Lead	ND		ug/L	1.4	5.0	1.0
Antimony	ND		ug/L	1.5	6.0	1.0
Selenium	ND		ug/L	4.0	10	1.0
Zinc	7.4	J	ug/L	6.6	50	1.0
Method: 245.1			Date Analyzed:		10/26/2010 1548	
Prep Method: 245.1			Date Prepared:		10/26/2010 0819	
Mercury	ND		ug/L	0.060	0.20	1.0

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Job Number: 360-30715-1

Client Sample ID: **OC-Inf102010**
Lab Sample ID: **360-30715-2**

Date Sampled: 10/20/2010 0945
Date Received: 10/20/2010 1745
Client Matrix: Water

Analyte	Result/Qualifier		Unit	RL	RL	Dilution
Method: 1664A			Date Analyzed:	10/27/2010 1610		
Prep Method: 1664A			Date Prepared:	10/27/2010 1131		
SGT-HEM	ND		mg/L	4.7	4.7	1.0
Method: 300.0			Date Analyzed:	10/30/2010 0958		
Chloride	300		mg/L	10	10	10
Method: 7196A			Date Analyzed:	10/21/2010 0821		
Cr (VI)	ND		mg/L	0.0050	0.0050	1.0
Method: 7196A			Date Analyzed:	11/03/2010 1131		
Chromium, trivalent	ND		mg/L	0.0050	0.0050	1.0
Method: L204001A CN			Date Analyzed:	10/26/2010 1510		
Prep Method: Distill/CN			Date Prepared:	10/26/2010 1035		
Cyanide, Total	ND		mg/L	0.010	0.010	1.0
Method: L210-001A			Date Analyzed:	11/05/2010 1559		
Prep Method: Distill/Phenol			Date Prepared:	11/05/2010 1359		
Phenols, Total	ND		mg/L	0.010	0.010	1.0
Method: SM 2540D			Date Analyzed:	10/26/2010 1023		
Total Suspended Solids	9.0		mg/L	5.0	5.0	1.0
Method: SM 4500 Cl F			Date Analyzed:	10/21/2010 0918		
Chlorine	ND	HF	mg/L	0.020	0.020	1.0

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Job Number: 360-30715-1

Client Sample ID: **OC-Trip Blank**
Lab Sample ID: **360-30715-3**

Date Sampled: 10/20/2010 0945
Date Received: 10/20/2010 1745
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8260B		Date Analyzed:		10/27/2010 0456	
Prep Method: 5030B		Date Prepared:		10/27/2010 0456	
Benzene	ND	ug/L	0.20	1.0	1.0
Toluene	ND	ug/L	0.40	1.0	1.0
Ethylbenzene	ND	ug/L	0.20	1.0	1.0
o-Xylene	ND	ug/L	0.40	1.0	1.0
m-Xylene & p-Xylene	ND	ug/L	0.40	2.0	1.0
Methyl tert-butyl ether	ND	ug/L	0.20	1.0	1.0
Butyl alcohol, tert-	ND	ug/L	3.8	50	1.0
Tert-amyl methyl ether	ND	ug/L	0.60	5.0	1.0
Carbon tetrachloride	ND	ug/L	0.40	1.0	1.0
1,1,1-Trichloroethane	ND	ug/L	0.40	1.0	1.0
1,1,2-Trichloroethane	ND	ug/L	0.40	1.0	1.0
1,1-Dichloroethane	ND	ug/L	0.20	1.0	1.0
1,1-Dichloroethene	ND	ug/L	0.40	1.0	1.0
1,2-Dichlorobenzene	ND	ug/L	0.40	1.0	1.0
1,2-Dichloroethane	ND	ug/L	0.40	1.0	1.0
1,3-Dichlorobenzene	ND	ug/L	0.40	1.0	1.0
1,4-Dioxane	ND	ug/L	10	50	1.0
1,4-Dichlorobenzene	ND	ug/L	0.20	1.0	1.0
Acetone	ND	ug/L	16	50	1.0
cis-1,2-Dichloroethene	ND	ug/L	0.20	1.0	1.0
Methylene Chloride	ND	ug/L	0.20	2.0	1.0
Tetrachloroethene	ND	ug/L	0.20	1.0	1.0
Trichloroethene	ND	ug/L	0.40	1.0	1.0
Vinyl chloride	ND	ug/L	0.40	0.50	1.0
2,4,4-Trimethyl-1-pentene	ND	ug/L	0.60	1.0	1.0
2,4,4-Trimethyl-2-pentene	ND	ug/L	0.60	1.0	1.0

Surrogate			Acceptance Limits
4-Bromofluorobenzene	99	%	70 - 130
Dibromofluoromethane	100	%	70 - 130
Toluene-d8 (Surr)	100	%	70 - 130

DATA REPORTING QUALIFIERS

Client: Olin Corporation

Job Number: 360-30715-1

Lab Section	Qualifier	Description
GC/MS VOA		
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC/MS Semi VOA		
	B	Compound was found in the blank and sample.
	*	LCS or LCSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC Semi VOA		
	*	RPD of the LCS and LCSD exceeds the control limits
Metals		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
General Chemistry		
	HF	Field parameter with a holding time of 15 minutes